

RECEIVED

NOV 1 9 2002

SEQUENCE LISTING

TECH CENTER 1600/2900

Burks, Wesley A Sampson, Hugh Sosin, Howard

<120> Methods and Reagents for Decreasing Clinical Reaction to Allergy

<130> 2002834-0043

<140> 09/141,220

<141> 1998-08-27

<150> PCT/US96/15222

<151> 1996-09-23

<150> 60/074,590

<151> 1998-02-13

<150> 60/074,624

<151> 1998-02-13

<150> 60/074,633

<151> 1998-02-13

<160> 80

<170> PatentIn Ver. 2.1

<210> 1

<211> 1930

<212> DNA

<213> peanut

<400> 1

aataatcata tatattcatc aatcatctat ataagtagta gcaggagcaa tgaggagggag 60 ggtttctcca ctgatgctgt tgctagggat ccttgtcctg gcttcagttt ctgcaacgca 120 tgccaagtca tcaccttacc agaagaaaac agagaacccc tgcgcccaga ggtgcctcca 180 gagttgtcaa caggaaccgg atgacttgaa gcaaaaggca tgcgagtctc gctgcaccaa 240 gctcgagtat gatcctcgtt gtgtctatga tcctcgagga cacactggca ccaccaacca 300 acgttcccct ccaggggagc ggacacgtgg ccgccaaccc ggagactacg atgatgaccg 360 ccgtcaaccc cgaagagag aaggaggccg atggggacca ggcggaccaa gggagcgtga 420 aagagaagaa gactggagac aaccaagaga agattggagg cgaccaagtc atcagcagcc 480 acggaaaata aggcccgaag gaagagaagg agaacaaccc tttctacttc ccgtcaaggc ggtttagcac 600 ccgctacggg aaccaaaacg gtaggatccg ggtcctgcag aggtttgacc aaaggtcaag 660

```
qcagtttcag aatctccaga atcaccgtat tgtgcagatc gaggccaaac ctaacactct 720
tqttcttccc aagcacqctg atgctgataa catccttgtt atccagcaag ggcaagccac 780
cqtqaccqta qcaaatqqca ataacagaaa qaqctttaat cttqacqaqg qccatqcact 840
caqaatccca tccggtttca tttcctacat cttgaaccgc catgacaacc agaacctcag 900
aqtaqctaaa atctccatgc ccgttaacac acccggccag tttgaggatt tcttcccggc 960
gagcagccga gaccaatcat cctacttgca gggcttcagc aggaatacgt tggaggccgc 1020
cttcaatgcg gaattcaatg agatacggag ggtgctgtta gaagagaatg caggaggtga 1080
gcaagaggag agagggcaga ggcgatggag tactcggagt agtgagaaca atgaaggagt 1140
gatagtcaaa gtgtcaaagg agcacgttga agaacttact aagcacgcta aatccgtctc 1200
aaaqaaaqqc tccqaaqaaq agggaqatat caccaaccca atcaacttga gagaaggcga 1260
gcccgatctt tctaacaact ttgggaagtt atttgaggtg aagccagaca agaagaaccc 1320
ccagcttcag gacctggaca tgatgctcac ctgtgtagag atcaaagaag gagctttgat 1380
gctcccacac ttcaactcaa aggccatggt tatcgtcgtc gtcaacaaag gaactggaaa 1440
ccttgaactc gtggctgtaa gaaaagagca acaacagagg ggacggcggg aagaagagga 1500
ggacgaagac gaagaagagg agggaagtaa cagagaggtg cgtaggtaca cagcgaggtt 1560
gaaggaaggc gatgtgttca tcatgccagc agctcatcca gtagccatca acgcttcctc 1620
cgaactccat ctgcttggct tcggtatcaa cgctgaaaac aaccacagaa tcttccttgc 1680
aggtgataag gacaatgtga tagaccagat agagaagcaa gcgaaggatt tagcattccc 1740
tgggtcgggt gaacaagttg agaagctcat caaaaaccag aaggaatctc actttgtgag 1800
tgctcgtcct caatctcaat ctcaatctcc gtcgtctcct gagaaagagt ctcctgagaa 1860
agaggatcaa gaggaggaaa accaaggagg gaagggtcca ctcctttcaa ttttgaaggc 1920
                                                                  1930
ttttaactqa
<210> 2
<211> 10
<212> PRT
<213> peanut
<400> 2
Ala Lys Ser Ser Pro Tyr Gln Lys Lys Thr
                  5
<210> 3
<211> 10
<212> PRT
<213> peanut
<400> 3
Gln Glu Pro Asp Asp Leu Lys Gln Lys Ala
  1
                                     10
<210> 4
```

<211> 10 <212> PRT

'CIE' IIII

<400> 4 Leu Glu Tyr Asp Pro Arg Leu Val Tyr Asp 5 <210> 5 <211> 10 <212> PRT <213> peanut <400> 5 Gly Glu Arg Thr Arg Gly Arg Gln Pro Gly <210> 6 <211> 10 <212> PRT <213> peanut <400> 6 Pro Gly Asp Tyr Asp Asp Asp Arg Gln <210> 7 <211> 52 <212> PRT <213> peanut Thr Asn Gln Arg Ser Pro Pro Gly Glu Arg Thr Arg Gly Arg Gln Pro 1 5 10 15 Gly Asp Tyr Asp Asp Asp Arg Gln Pro Arg Arg Glu Glu Gly Gly 20 25 30 Arg Trp Gly Pro Ala Gly Pro Arg Glu Arg Glu Arg Glu Glu Asp Trp 40 45 35 Arg Gln Pro Arg 50 <210> 8 <211> 10

<212> PRT

```
<213> peanut
<400> 8
Thr Asn Gln Arg Ser Pro Pro Gly Glu Arg
<210> 9
<211> 10
<212> PRT
<213> peanut
<400> 9
Gln Arg Ser Pro Pro Gly Glu Arg Thr Arg
                  5
<210> 10
<211> 10
<212> PRT
<213> peanut
<400> 10
Ser Pro Pro Gly Glu Arg Thr Arg Gly Arg
  1
<210> 11
<211> 10
<212> PRT
<213> peanut
<400> 11
Pro Gly Glu Arg Thr Arg Gly Arg Gln Pro
1
                 5
<210> 12
<211> 10
<212> PRT
<213> peanut
<400> 12
Glu Arg Thr Arg Gly Arg Gln Pro Gly Asp
                                     10
```

<210> 13

```
<211> 10
<212> PRT
<213> peanut
<400> 13
Thr Arg Gly Arg Gln Pro Gly Asp Tyr Asp
<210> 14
<211> 10
<212> PRT
<213> peanut
<400> 14
Gly Arg Gln Pro Gly Asp Tyr Asp Asp
<210> 15
<211> 10
<212> PRT
<213> peanut
<400> 15
Gln Pro Gly Asp Tyr Asp Asp Asp Arg Arg
<210> 16
<211> 10
<212> PRT
<213> peanut
<400> 16
Gly Asp Tyr Asp Asp Asp Arg Arg Gln Pro
 1
                                     10
<210> 17
<211> 10
<212> PRT
<213> peanut
<400> 17
Tyr Asp Asp Asp Arg Arg Gln Pro Arg Arg
```

```
<210> 18
<211> 10
<212> PRT
<213> peanut
<400> 18
Asp Asp Arg Arg Gln Pro Arg Arg Glu Glu
                   5
<210> 19
<211> 10
<212> PRT
<213> peanut
<400> 19
Arg Arg Gln Pro Arg Arg Glu Glu Gly Gly
                  5
<210> 20
<211> 10
<212> PRT
<213> peanut
<400> 20
Gln Pro Arg Arg Glu Glu Gly Gly Arg Trp
                   5
                                      10
<210> 21
<211> 10
<212> PRT
<213> peanut
<400> 21
Arg Arg Glu Glu Gly Gly Arg Trp Gly Pro
  1
                  5
<210> 22
<211> 10
<212> PRT
<213> peanut
<400> 22
Glu Glu Gly Gly Arg Trp Gly Pro Ala Gly
```

1 5 10

<210> 23 <211> 10

<212> PRT

<213> peanut

<400> 23

Gly Gly Arg Trp Gly Pro Ala Gly Pro Arg
1 5 10

<210> 24,

<211> 10

<212> PRT

<213> peanut

<400> 24

Arg Trp Gly Pro Ala Gly Pro Arg Glu Arg 1 5 10

<210> 25

<211> 10

<212> PRT

<213> peanut

<400> 25

Gly Pro Ala Gly Pro Arg Glu Arg Glu Arg
1 5 10

<210> 26

<211> 10

<212> PRT

<213> peanut

<400> 26

Ala Gly Pro Arg Glu Arg Glu Arg Glu Glu 1 5 10

<210> 27

<211> 10

<212> PRT

<213> peanut

```
<400> 27
Pro Arg Glu Arg Glu Glu Asp Trp
                  5
<210> 28
<211> 10
<212> PRT
<213> peanut
<400> 28
Glu Arg Glu Glu Asp Trp Arg Gln
<210> 29
<211> 10
<212> PRT
<213> peanut
<400> 29
Glu Arg Glu Glu Asp Trp Arg Gln Pro Arg
                                    10
<210> 30
<211> 22
<212> PRT
<213> peanut
<400> 30
Asp Ser Tyr Glu Arg Asp Pro Tyr Ser Pro Ser Gln Asp Pro Tyr Ser
                                    10
Pro Ser Pro Tyr Asp Arg
            20
<210> 31
<211> 10
<212> PRT
<213> peanut
<400> 31
Asp Ser Tyr Glu Arg Asp Pro Tyr Ser Pro
```

10

5

1

```
<210> 32
<211> 10
<212> PRT
<213> peanut
<400> 32
Tyr Glu Arg Asp Pro Tyr Ser Pro Ser Gln
                  5
                                      10
<210> 33
<211> 10
<212> PRT
<213> peanut
<400> 33
Arg Asp Pro Tyr Ser Pro Ser Gln Asp Pro
                 5
<210> 34
<211> 10
<212> PRT
<213> peanut
<400> 34
Pro Tyr Ser Pro Ser Gln Asp Pro Tyr Ser
                 5
<210> 35
<211> 10
<212> PRT
<213> peanut
<400> 35
Ser Pro Ser Gln Asp Pro Tyr Ser Pro Ser
<210> 36
<211> 10
<212> PRT
<213> peanut
<400> 36
```

Ser Gln Asp Pro Tyr Ser Pro Ser Pro Tyr

5

1

10

```
<210> 37
<211> 10
<212> PRT
<213> peanut
<400> 37
Asp Pro Tyr Ser Pro Ser Pro Tyr Asp Arg
                  5
<210> 38
<211> 23
<212> PRT
<213> peanut
<400> 38
Glu Glu Glu Tyr Asp Glu Asp Glu Tyr Glu Tyr Asp Glu Glu Asp Arg
                  5
                                      10
Arg Arg Gly Arg Gly Ser Arg
             20
<210> 39
<211> 15
<212> PRT
<213> peanut
<400> 39
Glu Glu Glu Tyr Asp Glu Asp Glu Tyr Glu Tyr Asp Glu Glu Asp
<210> 40
<211> 15
<212> PRT
<213> peanut
<400> 40
Glu Tyr Asp Glu Asp Glu Tyr Glu Tyr Asp Glu Glu Asp Arg Arg
 1
                                      10
                  5
                                                          15
<210> 41
<211> 15
```

<212> PRT

```
<213> peanut
<400> 41
Asp Glu Asp Glu Tyr Glu Tyr Asp Glu Glu Asp Arg Arg Gly
  1
                  5
                                     10
                                                          15
<210> 42
<211> 15
<212> PRT
<213> peanut
<400> 42
Asp Glu Tyr Glu Tyr Asp Glu Glu Asp Arg Arg Gly Arg Gly
                                     10
                                                         15
<210> 43
<211> 15
<212> PRT
<213> peanut
<400> 43
Tyr Glu Tyr Asp Glu Glu Asp Arg Arg Arg Gly Arg Gly Ser Arg
 1
                                     10
                                                         15
<210> 44
<211> 15
<212> PRT
<213> peanut
<400> 44
Tyr Asp Glu Glu Asp Arg Arg Gly Arg Gly Ser Arg Gly Arg
<210> 45
<211> 10
<212> PRT
<213> peanut
<400> 45
Pro Arg Arg Glu Glu Gly Gly Arg Trp Gly
 1
                  5
                                     10
```

<210> 46

```
<211> 10
<212> PRT
<213> peanut
<400> 46
Arg Glu Arg Glu Glu Asp Trp Arg Gln Pro
<210> 47
<211> 10
<212> PRT
<213> peanut
<400> 47
Glu Asp Trp Arg Arg Pro Ser His Gln Gln
                 5 - .
<210> 48
<211> 10
<212> PRT
<213> peanut
<400> 48
Gln Pro Arg Lys Ile Arg Pro Glu Gly Arg
<210> 49
<211> 9
<212> PRT
<213> peanut
<400> 49
Thr Gly Gln Phe Glu Asp Phe Pro
 1
                  5
<210> 50
<211> 10
<212> PRT
<213> peanut
<400> 50
```

Ser Tyr Leu Gln Glu Phe Ser Arg Asn Thr 1 5 10

```
<210> 51
<211> 10
<212> PRT
<213> peanut
<400> 51
Phe Asn Ala Glu Phe Asn Glu Ile Arg Arg
                  5
<210> 52
<211> 10
<212> PRT
<213> peanut
<400> 52
Glu Gln Glu Glu Arg Gly Gln Arg Arg Trp
                 5
<210> 53
<211> 10
<212> PRT
<213> peanut
<400> 53
Asp Ile Thr Asn Pro Ile Asn Leu Arg Glu
                  5
                                      10
<210> 54
<211> 10
<212> PRT
<213> peanut
<400> 54
Asn Asn Phe Gly Lys Leu Phe Glu Val Lys
                  5
<210> 55
<211> 10
<212> PRT
<213> peanut
<400> 55
```

Gly Thr Gly Asn Leu Glu Leu Val Ala Val

1 5 10

<210> 56
<211> 10
<212> PRT
<213> peanut
<400> 56
Arg Arg Tyr Thr Ala Arg Leu Lys Glu Gly
1 5 10

<210> 57 <211> 10 <212> PRT <213> peanut

<400> 57
Glu Leu His Leu Leu Gly Phe Gly Ile Asn
1 5 10

<210> 58
<211> 10
<212> PRT
<213> peanut
<400> 58

His Arg Ile Phe Leu Ala Gly Asp Lys Asp 1 5 10

<210> 59
<211> 10
<212> PRT
<213> peanut
<400> 59

Ile Asp Gln Ile Glu Lys Gln Ala Lys Asp
1 5 10

<210> 60 <211> 10 <212> PRT <213> peanut <400> 60

Lys Asp Leu Ala Phe Pro Gly Ser Gly Glu
1 5 10

<210> 61

<211> 10

<212> PRT

<213> peanut

<400> 61

Lys Glu Ser His Phe Val Ser Ala Arg Pro 1 5 10

<210> 62

<211> 10

<212> PRT

<213> peanut

<400> 62

Pro Glu Lys Glu Ser Pro Glu Lys Glu Asp 1 5 10

<210> 63

<211> 10

<212> PRT

<213> peanut

<400> 63

Arg Glu Arg Glu Glu Asp Trp Arg Gln Pro 1 5 10

<210> 64

<211> 10

<212> PRT

<213> peanut

<400> 64

Arg Arg Tyr Thr Ala Arg Leu Lys Glu Gly
1 5 10

<210> 65

<211> 10

<212> PRT

```
<213> peanut
<400> 65
His Ala Ser Ala Arg Gln Gln Trp Glu Leu
        5
<210> 66
<211> 10
<212> PRT
<213> peanut
<400> 66
Gln Trp Glu Leu Gln Gly Asp Arg Arg Cys
                  5
<210> 67
<211> 10
<212> PRT
<213> peanut
<400> 67
Asp Arg Cys Gln Ser Gln Leu Glu Arg
1
<210> 68
<211> 10
<212> PRT
<213> peanut
<400> 68
Leu Arg Pro Cys Glu Gln His Leu Met Gln
 1
                5
<210> 69
<211> 10
<212> PRT
<213> peanut
<400> 69
Lys Ile Gln Arg Asp Glu Asp Ser Tyr Glu
1
                 5
```

<210> 70

```
<211> 10
<212> PRT
<213> peanut
<400> 70
Tyr Glu Arg Asp Pro Tyr Ser Pro Ser Gln
                5
<210> 71
<211> 10
<212> PRT
<213> peanut
<400> 71
Ser Gln Asp Pro Tyr Ser Pro Ser Pro Tyr
                 5
<210> 72
<211> 10
<212> PRT
<213> peanut
<400> 72
Asp Arg Leu Gln Gly Arg Gln Gln Glu Gln
<210> 73
<211> 10
<212> PRT
<213> peanut
<400> 73
Lys Arg Glu Leu Arg Asn Leu Pro Gln Gln
1
                  5
                                     10
<210> 74
<211> 10
<212> PRT
<213> peanut
<400> 74
```

Gln Arg Cys Asp Leu Asp Val Glu Ser Gly
1 5 10

<210> 75 <211> 474 <212> DNA <213> peanut <400> 75 ctcaccatac tagtageeet egecetttte etectegetg eccaegeate tgegaggeag 60 cagtgggaac tccaaggaga cagaagatgc cagagccagc tcgagagggc gaacctgagg 120 ccctgcgagc aacatctcat gcagaagatc caacgtgacg aggattcata tgaacgggac 180 ccgtacagcc ctagtcagga tccgtacagc cctagtccat atgatcggag aggcgctgga 240 tcctctcagc accaagagag gtgttgcaat gagctgaacg agtttgagaa caaccaaagg 300 tgcatgtgcg aggcattgca acagatcatg gagaaccaga gcgataggtt gcaggggagg 360 caacaggagc aacagttcaa gagggagctc aggaacttgc ctcaacagtg cggccttagg 420 gcaccacage gttgegactt ggacgtegaa agtggeggea gagacagata etaa <210> 76 <211> 1524 <212> DNA <213> peanut <400> 76 cggcagcaac cggaggagaa cgcgtgccag ttccagcgcc tcaatgcgca gagacctgac 60 aatcgcattg aatcagaggg cggttacatt gagacttgga accccaacaa ccaggagttc 120 gaatgegeeg gegtegeeet etetegetta gteeteegee geaaegeeet tegtaggeet 180 ttctactcca atgctcccca ggagatcttc atccagcaag gaaggggata ctttgggttg 240 atattccctg gttgtcctag acactatgaa gagcctcaca cacaaggtcg tcgatctcag 300 tcccaaagac caccaagacg tctccaagga gaagaccaaa gccaacagca acgagatagt 360 caccagaagg tgcaccgttt cgatgagggt gatctcattg cagttcccac cggtgttgct 420 ttctggctct acaacgacca cgacactgat gttgttgctg tttctcttac tgacaccaac 480 aacaacgaca accagettga teagtteece aggagattea atttggetgg gaacaeggag 540 caagagttct taaggtacca gcaacaaagc agacaaagca gacgaagaag cttaccatat 600 agcccataca gcccgcaaag tcagcctaga caagaagagc gtgaatttag ccctcgagga 660 cagcacagcc gcagagaacg agcaggacaa gaagaagaaa acgaaggtgg aaacatcttc 720 agcggcttca cgccggagtt cctggaacaa gccttccagg ttgacgacag acagatagtg 780 caaaacctaa gaggcgagac cgagagtgaa gaagagggag ccattgtgac agtgagggga 840 ggcctcagaa tcttgagccc agatagaaag agacgtgccg acgaagaaga ggaatacgat 900 gaagatgaat atgaatacga tgaagaggat agaaggcgtg gcaggggaag cagaggcagg 960 gggaatggta ttgaagagac gatctgcacc gcaagtgcta aaaagaacat tggtagaaac 1020 agateceetg acatetacaa eeetcaaget ggtteactea aaactgeeaa egateteaae 1080 cttctaatac ttaggtggct tggacctagt gctgaatatg gaaatctcta caggaatgca 1140 ttgtttgtcg ctcactacaa caccaacgca cacagcatca tatatcgatt gaggggacgg 1200 gctcacgtgc aagtcgtgga cagcaacggc aacagagtgt acgacgagga gcttcaagag 1260 ggtcacgtgc ttgtggtgcc acagaacttc gccgtcgctg gaaagtccca gagcgagaac 1320 ttcgaatacg tggcattcaa gacagactca aggcccagca tagccaacct cgccggtgaa 1380

aactccgtca tagataacct gccggaggag gtggttgcaa attcatatgg cctccaaagg 1440 gagcaggcaa ggcagcttaa gaacaacaac cccttcaagt tcttcgttcc accgtctcag 1500

```
<210> 77
<211> 15
<212> PRT
<213> peanut
<400> 77
Ile Glu Thr Trp Asn Pro Asn Asn Gln Glu Phe Glu Cys Ala Gly
                  5
<210> 78
<211> 15
<212> PRT
<213> peanut
<400> 78
Gly Asn Ile Phe Ser Gly Phe Thr Pro Glu Phe Leu Glu Gln Ala
                  5
                                      10
                                                          15
<210> 79
<211> 15
<212> PRT
<213> peanut
<400> 79
Val Thr Val Arg Gly Gly Leu Arg Ile Leu Ser Pro Asp Arg Lys
 1
                  5
                                                          15
<210> 80
<211> 15
<212> PRT
<213> peanut
<400> 80
Asp Glu Asp Glu Tyr Glu Tyr Asp Glu Glu Asp Arg Arg Gly
                  5
                                      10
                                                          15
```